if the latter be taken as standard, it should be divided into twelfths (or telths), and these again into twelfths, etc. The mile might be slightly reduced to 1,728 yards (in the tel-system 1,000 yards, 3,000 feet). All such details and all proper preliminaries to the passage from ten to twelve could be worked out by scientific committees appointed for the purpose, once the number twelve is laid at the base of our numeration, notation and all forms of measurement—a position for which it is uniquely fitted.

One and only one objection can be made to this proposal, namely, that it is impractical, infeasible and visionary. We dare not answer with the favorite Scripture, "Where there is no vision, the people perish," for this sentiment alas! is foreign to the Hebrew proverb. But the objectors themselves reject with scorn the similar objection to the introduction of the metric system, that it is impractical and visionary and could only with great difficulty be effected. It is the stock objection of all conservatism, the objection that confronts every effort to rationalize, humanize, beautify, glorify and justify our life on earth, the objection that it can not be done! The same has been said of a hundred proposals, all declared unrealizable, and all now actually realized. It may be hard to answer Zeno's arguments against the possibility of motion, but it is none the less easy to move! So it will be with the change from ten to twelve. Attempted, it will be accomplished. Not in a day or a year, but at most in a generation. Let the children be taught the tel-system year after year. The time necessary to learn it will be quite inconsiderable. Once learned, it will also be loved. In the meantime scientific commissions can go over the whole ground carefully and prepare the way in the wilderness and level up in the desert a road for the age to come. When the change is finally carried into effect, the jar of switching off the ten-track to the twelve-track will be much less severe than we now imagine. But it will bring incalculable blessings to all future generations. The great giant arithmetic will be shorn of half his terrors. It is very common in these loud-mouthed days to make Brobdingnagian pretensions. We are told that each of a score of trifles (base-ball among them) won the war, when each made only a paltry contribution to the collective result. So we are assured that each of many things would have abridged the war by months or years. The World Trade Club informs us that had Congress adopted the "meter-liter-gram legislation before Congress (1904), the war would have been shortened two years." If a few other such things had been done, perhaps the war would have been stopped like Buck Fanshaw's riot, before it was started or even imagined! As such indebtedness heaps up on all sides, one is reminded of the famous couplet:

> Owen More has run away,
> Owin' more than he can pay.

We are further assured that

> Clyde Wolfe, Master Mathematician, University of California, writes: A conservative estimate is that the exclusive use of meter-liter-gram would shorten the time of teaching arithmetic to the average child by 2 years.

If so, then the substitution of twelve for ten as a base ought to shorten it by at least four years. No such claim is made here, but it is affirmed that a very large and sorely needed saving of time and energy would be effected, and that if the introduction of the thoroughly rational twelve-system should be supplemented by the adoption of a thoroughly rational alphabet, with one-to-one correspondence of sign and sound, then would the words of the English language indeed be winged and fly over all the earth, then would our Anglo-American civilization lead the van of progress, and its commerce would fulfil the boast of its poet:

> Trade is the golden girdle of the globe.

William Benjamin Smith

A NATIONAL INSTITUTE OF NUTRITION

In a recent issue of Science (August 1, 1919) Lusk calls attention to a reconstruction problem which seems in danger of receiving less consideration than its fundamental significance demands, viz., the food problem, vital

to the very existence of civilization, and proposes as one agency for its study the foundation of a national laboratory of human nutrition. The importance of the subject is such that Lusk's proposal seems to invite discussion on the part of those more or less directly interested in the science of nutrition and its utilization for the benefit of humanity. Accordingly I venture to submit for consideration certain personal notions regarding the kind of organization which is desirable and as to steps which might be taken to secure it.

It is to be remarked in the first place that the subject of national (and still more of international) nutrition is a very broad one, involving much more than the mere laboratory study of the laws of human nutrition, important as that is. It is a two-fold subject, including the economical production of food as well as its efficient utilization. The farmer, like other producers, rightly desires a reasonable reward for his services. The interests of the consuming public demand a liberal food supply at prices low enough to ensure the adequate nourishment of all classes of the community. It should be the aim of any national organization of students of nutrition to contribute to the harmonizing of these apparently conflicting interests and to demonstrating that in the large view they are not antagonistic. Accordingly I feel inclined to broaden the caption of Lusk's article and to speak provisionally of a national institute of nutrition.

In the organization of such an institute there are certain general principles which should, as I think, control.

1. It should not be burdened with executive duties. Questions of transportation, marketing, cold storage, profiteering, price control, rationing, etc., should be recognized as subjects lying outside its field and with which students of nutrition as such are not specially qualified to deal. In brief, it should not be an executive department of the government nor have the functions of a food administration but should supply to legislative and executive authorities the scientific data upon which any successful measures of food policy must be based.

2. It should be distinctly national in character and should be a means of integrating and coordinating without controlling the activities of the various existing agencies of investigation. It should be so constituted that it may represent the United States officially in any international conference involving questions of nutrition.

3. It should be under the control of scientific men and not subject to the vagaries of legislative bodies nor dependent upon them for annual appropriations with the accompanying pressure to emphasize popular and spectacular work. This is an additional reason for not making it an executive department.

The natural organizing authority of such an institute as is here contemplated would seem to be the National Research Council. Both because of its intimate relations with the National Academy of Sciences and by virtue of the executive order of May 11, 1918, it is recognized as a national body representing the organized scientific activities of the United States. Moreover, the Research Council has already taken a first step in the direction indicated by authorizing the appointment of a committee on food and nutrition. Presumably the purpose has been to select a committee representative of the nutrition investigators of the country while the matter is still sufficiently fluid to permit of any necessary modifications. Here, as it seems to me, is an ideal body to constitute a board of control of the proposed institute. It would determine, subject to the approval of the National Research Council, the general policy of the institute, while the immediate administration would naturally be confided to a director selected or nominated by the governing body and responsible to it but given large discretionary powers.

It would be premature to attempt to outline in any detail the field of work of a national institute of nutrition but it would seem that it would rather naturally divide itself into four sections:

I. *Statistical.*—What are the total food requirements of the United States? What is the actual food consumption and how much of this is avoidable waste? How is food consumption and food waste distributed among different classes of

the population? What is our total food production, and can it be modified so as to secure more efficient utilization? Information on these and related questions should be kept up to date and available, using present statistical data so far as they suffice and collecting additional data if needed.

II. *Physiological.*—A scientific study of problems of human nutrition, such as those instanced by Lusk and others which might be added. The results of these investigations would afford the indispensable groundwork of the statistical studies just mentioned.

III. *Agricultural.*—A broad study of the economy of food production in the light of the food requirements of the nation and from the standpoint of the mutual interests of producer and consumer. All the innumerable problems of plant and animal nutrition would find their place here, as well as broader questions regarding the relative economy of production of animal and vegetable foods and of different classes of each and of the most economical level of production under varying conditions.

IV. *Extension and Publicity.*—A very important function of the institute would be to bring the results of its work effectively to the attention of the community and of legislatures and executives, and to impress on them its vast economic and social importance.

It goes without saying that such an institute should cultivate most cordial relations with existing agencies. It should supplement, not supplant. If wisely and conservatively directed it might do much to bring about cooperation and coordination in the activities of extension departments, of nutrition laboratories, of experiment stations, and of the research and statistical divisions of the department of agriculture, so far as they relate to nutrition. Whether its objects could be sufficiently attained in this way or whether its policy should include in addition the establishment of laboratories of its own would be a question for the decision of the board of control.

Finally, as regards financial support, I believe that if as the result of free discussion and comparison of views a scheme can be worked out which has the approval of the scientific men of the country and which commends itself to the National Research Council as practicable and as promising material benefit to the public, past experience warrants the belief that the necessary funds will be forthcoming.

H. P. Armsby

THE OSLER PRESENTATION

On July 11, 1919, Sir William Osler, Regius professor of medicine in the University of Oxford, was honored by the presentation of two anniversary volumes, made up of medical contributions by English and American colleagues, commemorating his seventieth birthday (July 12). The presentation was made by Sir Clifford Allbutt at the house of the Royal Society of Medicine on behalf of some 150 subscribers and contributors, in the presence of a large and distinguished audience. The plan of a birthday memorial originated at Oxford, and was successfully carried through by a committee with Dr. William H. Welch as chairman, Dr. Casey A. Wood, as secretary and Dr. Henry Barton Jacobs as treasurer. In the early stages, the work was financed through the energy and initiative of Colonel Casey A. Wood, and the manuscripts were edited and carried through the press by Drs. Charles L. Dana (New York) and Charles Singer (Oxford).

Sir William Osler, the recipient of this unusual tribute, is looked up to and honored everywhere as a leader of British and American medicine. In succession, he has held the chairs of medicine at McGill (1874), the University of Pennsylvania (1884), the Johns Hopkins University (1889) and Oxford (1904). His eminence in clinical medicine is based upon an extraordinary knowledge of pathology, acquired in his early days at Montreal, and upon the fact that he has taught medicine to students inductively, away from the textbooks, and by direct contact with the sick in the wards. At an early age (1874) he described the blood-platelets, which he was the first to define as the third corpuscle of the blood and in relation to the formation of thrombi. He also discovered the parasite of verminous aneurism (*Filaria Osleri*), first pointed out the relation between mycotic